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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,938	12/23/2003	Vasu J. Bibikar	42339-198342	7156
26694	7590	02/05/2007	EXAMINER	
VENABLE LLP			HASSAN, AURANGZEB	
P.O. BOX 34385			ART UNIT	
WASHINGTON, DC 20043-9998			PAPER NUMBER	
			2182	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/05/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/742,938

Applicant(s)

BIBIKAR ET AL.

Examiner

Aurangzeb Hassan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 6-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/2006 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1 – 5 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim limitations of a register adapted to appear to be an attempt to claim substantially every practical application of a register, therefore preempting an abstract idea and non-statutory.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (non-statutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 2, 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim limitation "adapted to" pertaining to a register does not make apparent the metes and bounds of the claim since the claim appears to cover anything and everything that does not prohibit actions from occurring. Furthermore the label/name of the registers in claim 1 does not affect the structure of the register.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 112 above are best interpreted as a register comprising additional registers for claim 1 and for claims 2, 3 and 5 a direct memory access controller actively performs an operation indicated by bits.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by *Computer Architecture A Quantitative Approach* (hereinafter "Hennessy").

8. As to claim 1, Hennessy teaches an apparatus comprising:

a direct memory access register (DRAM is adapted to hold multiple registers, page 103 and 441) adapted to hold a descriptor (descriptor, page 454), said register comprising:

a command register (command register format can be seen on page 99) comprising a compare enable bit (compare enable bit is the condition for the branching, page 102) and a single branch enable bit (single branch enable bit is the opcode for branching, page 102);

a source address register (R4, table 2.24, page 102);

a target address register (name, table 2.24, page 102, target address elaborated on page 276); and

a descriptor address register (descriptor table, page 454, figure 5.45 page 455).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hennessy in view of Barry et al. (US Patent Number 6,457,073 hereinafter “Barry”).

11. As per claim 2, Hennessy teaches an apparatus wherein said compare enable bit is adapted to indicate a comparison operation to be performed based on said source address register and said target address register (branch instructions determined by the opcode, page 99, are based on the target and source, figure 2.24, page 102).

Hennessy does not explicitly teach a comparison operation to be performed by a controller.

Barry teaches comparison operations performed by a direct memory access controller (transfer controller supports branch, column 8, lines 63 – 67 and column 9, lines 1 – 37).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Hennessy with the above teachings of Barry. One of ordinary skill would be motivated to make such modification in order to have an improved technique for carrying out data transfer functions (column 2, lines 1 – 12).

Examiner directs applicant to the background in order to better understand Barry.

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12. As per claim 3, Hennessy teaches an apparatus wherein said branch enable bit is adapted to indicate a branch operation to access another descriptor.

Hennessy does not explicitly teach a branch operation to be performed by a controller.

Barry teaches a branch operation performed by a direct memory access controller (transfer controller supports branch, column 8, lines 63 – 67 and column 9, lines 1 – 37).

It would have been obvious to one of ordinary skill in the art to make such modifications for the same reasons of motivation expressed above in claim 2.

Examiner also provides Okubu et al. (US Patent Number 6,456,390) as extrinsic evidence in order to better understand the nature of descriptors in an environment comprising a DMA Controller, in particular column 2, lines 16 – 31 are noted.

13. As per claim 4, Hennessy teaches conditional branch instructions (figure 3.23, page 164).

Hennessey does not explicitly disclose that the conditional branch stores a bit that describes the compare condition in a status register.

Barry teaches an apparatus further comprising a control status register (WAIT PC REGISTER used for status, figure 4E), said control status register comprising a compare status bit (Bits of Wait PC Register, figure 4E used to compare).

It would have been obvious to one of ordinary skill in the art to make such modifications for the same reasons of motivation expressed above in claim 2.

Examiner also provides *Computer Systems Design and Architecture* (hereinafter "Heuring") as extrinsic evidence in order to better understand possible interpretations of control status registers. Heuring teaches an apparatus further comprising a control status register (condition code register, page 39 - 40), said control status register comprising a compare status bit (bit that describes condition, page 39).

14. As per claim 5, Hennessey teaches an apparatus wherein said branch enable bit is adapted to indicate a branch operation to be performed to access another descriptor based on said compare status bit (branch to segment descriptor, page 454 - 455).

Hennessey does not explicitly disclose a branch operation to be performed by a controller.

Barry teaches a branch operation performed by a direct memory access controller (transfer controller supports branch, column 8, lines 63 - 67 and column 9, lines 1 - 37).

It would have been obvious to one of ordinary skill in the art to make such modifications for the same reasons of motivation expressed above in claim 2.

Response to Arguments

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15. Applicant's arguments with respect to claims 1 – 5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Numbers 6,456,390 and 6,754,732 teach the nature of descriptors in an environment comprising a DMA Controller.


17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aurangzeb Hassan whose telephone number is (571) 272-8625. The examiner can normally be reached on Monday - Friday 9 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AH


KIM HUYNH
SUPERVISORY PATENT EXAMINER

2/1/07